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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,575

11/29/2006

Heino Heckmann

2004DE106

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25255

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06/08/2011

CLARIANT CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
4000 MONROE ROAD
CHARLOTTE, NC 28205

EXAMINER

VAJDA, PETER L

ART UNIT

PAPER NUMBER

1721

MAIL DATE

DELIVERY MODE

06/08/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,575	HECKMANN ET AL.	
	Examiner	Art Unit	
	PETER VAJDA	1721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/17/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/17/2011 has been entered.

Response to Arguments

Applicant's arguments filed 05/17/2011 have been fully considered but they are not persuasive. The applicant has provided a second Rule 132 affidavit (filed 05/17/2011) to further clarify the affidavit filed 11/16/2010. In the second affidavit, the applicant has shown that an inventive sample C, which corresponds to Example 1 in the applicant's specification, is able to provide 77 times higher contrast ratio than a sample B, which corresponds to PV 23. The applicant claims that this is an unexpected result because the sample C has a greater particle diameter and therefore would be expected to show more light scattering and therefore a lower contrast ratio. As the difference in particle diameters between sample C and sample B is only 5 nm, it is not clear to the examiner that this represents an unexpected finding as the difference in particle size is minute. However, the affidavit does seem to show that sample C possesses superior contrast value to sample B. This too, does not seem to be unexpected as Dietz teaches

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that the pigment preparations have excellent coloristic properties (Col. 1-2). The affidavit, however, discloses the contrast value for only one species of the applicant's large genus recited in pending claim 1. According to the MPEP (2145),

a showing of unexpected results for a single member of a claimed subgenus, or a narrow portion of a claimed range would be sufficient to rebut a prima facie case of obviousness if a skilled artisan "could ascertain a trend in the exemplified data that would allow him to reasonably extend the probative value thereof." In re Clemens, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980) (Evidence of the unobviousness of a broad range can be proven by a narrower range when one skilled in the art could ascertain a trend that would allow him to reasonably extend the probative value thereof.). But see, Grasselli, 713 F.2d at 743, 218 USPQ at 778 (evidence of superior properties for sodium containing composition insufficient to establish the non-obviousness of broad claims for a catalyst with "an alkali metal" where it was well known in the catalyst art that different alkali metals were not interchangeable and applicant had shown unexpected results only for sodium containing materials); In re Greenfield, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978) (evidence of superior properties in one species insufficient to establish the nonobviousness of a subgenus containing hundreds of compounds); In re Lindner, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) (one test not sufficient where there was no adequate basis for concluding the other claimed compounds would behave the same way).

Herein, the applicant's genus is broad and it is not possible to ascertain a trend in the exemplified data that would allow a reasonable extension of the probative value thereof to the other species in the genus. The applicant's genus extends to hundreds of compounds and therefore the showing of one compound is not sufficient to extend the properties of the pigment-pigment dispersant complex of sample C to all complexes that fall within the applicant's broad formula in pending claim 1.

Additionally, the MPEP (2145) instructs that, "The fact that appellant has recognized another advantage which would flow naturally from following the suggestion

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of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.” *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Dietz teaches the use of the same pigment-pigment dispersant preparation in polymeric materials claimed by the applicant and color filters are well known to comprise pigments dispersed in thin polymeric sheets. Furthermore, the use of the pigment in Dietz’s pigment preparation in color filters is well known. Thus, the advantage recognized by the applicant would flow naturally from the teaching of Dietz that the pigment preparation be dispersed in polymers and the obvious use of said pigment preparation in a color filter taken with the teachings of Grandidier. Since the pigment preparation taught by Dietz is intended to replace the use of PV 23, which said pigment preparation contains, in polymeric films it would have been obvious to employ said pigment preparation in various applications that require the dispersing PV 23 into a polymeric film, such as color filters as taught by Grandidier. Therefore, the properties measured by the applicant flow naturally from following the teaching of Dietz and Grandidier. Therefore, the application of the pigment preparation of Dietz in color filters would have been obvious for this reason as well as those detailed in the 35 U.S.C. 103(a) rejection (which is re-stated below).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz *et al.* (US Patent 5,318,627) in view of Grandidier *et al.* (US PGP 2004/0261662).

Dietz teaches a pigment dispersant/pigment combination recited as a colorant by the applicant in pending claim 1 and a method of coloring a high molecular weight organic material such as a polymer or resin composition (Col. 4 ln. 18 – Col. 5 ln. 35 and Col. 7 ln. 23-43). Specifically, Dietz teaches a base pigment of formula (I) which has the exact structure as the applicant's base pigment in pending claim 1.

Furthermore, Dietz teaches pairing the pigment of formula I with a pigment dispersant of formula (II), wherein formula II is represented by $Q-[Y-X]_m$. In formula (II) of Dietz, Q is an m-valent radical of the base pigment of formula (I), Y is a bridge forming group defined by the same linking groups as the applicant's Y group in formula (II) of pending claim 1, and X is the radical or an aliphatic or aromatic five or six-membered heterocyclic system bound to bridging member Y via a carbon atom and is defined the same as the applicant's X in pending claim 1 (Col. 4 ln. 35-68). Dietz further teaches that dioxazine compounds of the class of pigment dispersants of formula (II) that are particularly useful have the composition of formula (III), which is the same as the applicant's formula (III) recited in pending claim 4. The applicant further defines Y and X in pending claims 2 and 3 to include different linkages (in the case of Y) and different radicals (in the case of X), however, Dietz also teaches that Y and X may be selected from many, if not all, of the linkages and radicals listed in pending claims 2 and 3 (Col. 4

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ln. 35 – Col. 5 ln. 54). Furthermore, m in formula (II) of Dietz is taught to be a number of from 0.1 to 4 (Col. 5 ln. 27-34). Additionally, the pigment dispersant of formula (II) is taught by Dietz to be added to the pigment preparation in an amount of from 0.1 to 25% by weight of the base pigment of formula (I) (Col. 6 ln. 3-13). The pigment preparation taught by Dietz is taught to be especially useful in printing inks or toners by adding the pigment preparation to high-molecular weight organic materials (i.e. binder resins of toners) (Col. 7 ln. 23-43).

Grandidier teaches that the same pigment taught for use in a pigment preparation by Dietz can be used in polymers, printing inks and color filters (Abstract). Furthermore, it is taught that by preparing Pigment Violet 23, which has the same chemical formula as the applicant's formula (I) and Dietz's formula (I), with the process taught by Grandidier, the coloristic value of the pigment becomes surprisingly high and possesses excellent crystallinity combined with a small particle size which suits the pigment especially well to uses in color filters (p. 7 [0099]). Furthermore, the pigment exhibits both an excellent rheology which allows for its use in high concentration while also exhibiting superior coloristic properties and excellent fastnesses (p. 7 [0099]).

Both Dietz and Grandidier teach the use of the same dioxane based pigments in their respective formula (I)'s. Both also teach that the pigment may be used to color polymers and binder resins and may be used in toners, printing inks and other polymer/plastic based materials. Grandidier further teaches that said pigments may also be especially suited to use in color filters. Therefore, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have used the

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pigment preparation taught by Dietz *et al.* in a color filter as taught by Grandidier *et al.* or to have made the pigment by the process taught by Grandidier *et al.* for use in a color filter. Both Dietz and Grandidier teach that the pigment is suitable for use in the same materials, but Dietz does not teach that the pigment preparation be used in a color filter. Grandidier teaches that the pigment is especially suited to use in color filters, particularly when prepared in the manner taught by Grandidier. The method of production taught by Grandidier produces a pigment with excellent coloristic value, crystallinity, particle size distribution, rheology and fastness.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz *et al.* (US Patent 5,318,627) in view of Grandidier *et al.* (US PGP 2004/0261662) as applied to claims 1-7 and 9 above, and further in view of Coffey (US PGP 2002/0119314).

The complete discussions of Dietz *et al.* and Grandidier *et al.* above are incorporated herein. Dietz, however, does not teach that the pigment may be shaded with other pigments or dyes.

Coffey teaches colorized rubber particles that are colored by inorganic or organic pigments. As a suitable pigment, Coffey teaches the use of C.I. Pigment Violet 23 (which has the same formula as the formulas (I) of Dietz and the applicant) and teaches that pigment dispersions may be blended together to produce many different colors and shades of color (p. 3 [0024-27]).

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All of Dietz, Grandidier and Coffey teach the use of colorants containing pigments to color high molecular weight organic materials (such as polymers, resins and rubbers). Coffey teaches that by blending multiple pigments together different shades of color can be produced. Dietz is not directed towards an invention wherein one specific color is desired, but instead teaches that pigment preparation (pigment and pigment dispersant) are especially useful in coloring high molecular weight organic compounds, which pose no prohibition on the use of various different shades. Therefore, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have used the pigment preparation taught by Dietz *et al.* in a color filter as taught by Grandidier *et al.* or to have made the pigment by the process taught by Grandidier *et al.* for use in a color filter and to have employed the well known process of blending pigments to achieve different shades taught by Coffey to the pigment preparation taught by Dietz *et al.* This would have allowed for the production of many different shades and colors of color filters.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER VAJDA whose telephone number is (571)272-7150. The examiner can normally be reached on 7:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter L Vajda/
Primary Examiner, Art Unit 1721
06/03/2011